

REFERENCES

- Adhvaryu, A., Liu, Z., & Erhan, S. Z. (2005). Synthesis of novel alkoxyated triacylglycerols and their lubricant base oil properties. *Industrial Crops and Products*, 21(1), 113-119.
- Agarwal, G., Patnaik, A., Kumar, R., & Sharma, K. V. (2013). Parametric optimization and three-body abrasive wear behavior of Sic filled chopped glass fiber reinforced epoxy composites. *international journal of composite material*, 2, 32-38.
- Alawi, O. A., Sidik, N., Azwadi, C., & Mohammed, H. A. (2014). A comprehensive review of fundamentals, preparation and applications of nanorefrigerants. *International Communications in Heat and Mass Transfer*, 54(0), 81-95. doi:<http://dx.doi.org/10.1016/j.icheatmasstransfer.2014.03.001>
- Ali, M. K. A., Abdelkareem, M. A. A., Elagouz, A., Essa, F. A., & Hou, X. (2017). Mini Review on the Significance Nano-Lubricants in Boundary Lubrication Regime. *Biosensors & Bioelectronics*, 2(2), 1-2.
- Ali, M. K. A., Xianjun, H., Elagouz, A., Essa, F. A., & Abdelkareem, M. A. A. (2016). Minimizing of the boundary friction coefficient in automotive engines using Al₂O₃ and TiO₂ nanoparticles. *Nanoparticles Research*, 18, 377.
- Arumugam, S., & Sriram, G. (2012). Effect of Bio-Lubricant and Biodiesel-Contaminated Lubricant on Tribological Behavior of Cylinder Liner–Piston Ring Combination. *Journal Tribology Transactions*, 55(4), 438-445.
- Aslan, N., & Cebeci, Y. (2007). Application of Box-Behnken design and response surface methodology fo modeling of some Turkish coals. *Fuel*, 90-97.
- Asrul, M., Zulkifli, N. W. M., Masjuki, H. H., & Kalam, M. A. (2013). Tribological properties and lubricant mechanism of nanoparticle in engine oil. *Procedia Engineering*, 320-325.
- Astray, G., Gullón, B., Labidi, J., & Gullón, P. (2016). Comparison between developed models using response surface methodology (RSM) and artificial neural networks (ANNs) with the purpose to optimize oligosaccharide mixtures production from sugar beet pulp. *Industrial Crops and Products*, 92, 290-299. doi:<http://dx.doi.org/10.1016/j.indcrop.2016.08.011>

- Atmanlı, A., Yüksel, B., İleri, E., & Karaoglan, A. D. (2015). Response surface methodology based optimization of diesel–n-butanol –cotton oil ternary blend ratios to improve engine performance and exhaust emission characteristics. *Energy Conversion and Management*, 90, 383-394. doi:10.1016/j.enconman.2014.11.029
- Bashirnezhad, K., Rashidi, M. M., Yang, Z., Bazri, S., & Yan, W. (2015). A comprehensive review of last experimental studies on thermal conductivity of nanofluids. *Journal of Thermal Analysis and Calorimetry*. doi:10.1007/s10973-015-4820-9
- Battez, A. H., Gonzalez, R., Viesca, J. L., Fernandez, J. E., Diaz, F. J. M., Machado, A., . . . Riba, J. (2008). CuO, ZrO₂ and ZnO nanoparticles as antiwear additive in oil lubricants. *Wear*, 422-428.
- Borda, F. L. G., Oliveira, E. P., Lazaro, L. M. S. M., & Leiroz, A. J. K. (2018). Experimental investigation of the tribological behavior of lubricants with additive containing copper nanoparticles. *Tribological International*, 117, 52-58.
- Cesur, I., Ayhan, V., Parlak, A., Savas, O., & Aydin, Z. (2014). The effect of different fuels on wear between piston ring and cylinder. 8.
- Chacko, P. K., Perikinalil, K. R., & Manu, V. T. (2015). Evaluation of the tribological and thermo-physical properties of coconut oil added with MoS₂ nanoparticle at elevated temperatures. *Wear*, 288-308.
- Cheenkachorn, K., & Fungtammasan, B. (2010). Development of engine oil using palm oil as a base stock for four-stroke engines. . *Energy Conversion and Management*, 35(6), 2552-2556.
- Choi, Y., Lee, J., Hwang, Y., Park, M., Lee, J., Choi, C., & Jung, M. (2009). Tribological behaviour of copper nanoparticles as additive in oil. *Current applied physics*, 124-127.
- Dharma, S., Masjuki, H. H., Ong, H. C., Sebayang, A. H., Silitonga, A. S., Kusumo, F., & Mahlia, T. M. I. (2016). Optimization of biodiesel production process for mixed *Jatropha curcas*–*Ceiba pentandra* biodiesel using response surface methodology. *Energy Conversion and Management*, 115, 178-190. doi:http://dx.doi.org/10.1016/j.enconman.2016.02.034
- Dmitri, K. D. (2016). Mechanism of wear. from SubsTech

- Dwivedi, D. K. (2010). Adhesive wear behaviour of cast aluminium–silicon alloys: Overview. *Materials & Design (1980-2015)*, 31(5), 2517-2531. doi:http://dx.doi.org/10.1016/j.matdes.2009.11.038
- E.B., H., & L.G., T. (1985). *Metals Handbook*: American Society for Metals.
- Ettefaghi, E., Ahmadi, H., Rashidim, A., Mohtasebi, S. S., & Alaei, M. (2013). Experimental evaluation of engine oil properties containing copper oxide nanoparticles as a nanoadditive. *International Journal of Industrial Chemistry*, 1-6.
- Gohar, R., & Rahnejat, H. (2008). *Fundamentals of Tribology* (T. K. Wei Ed.). London: Imperial College Press.
- Gunda, R. K., & Narala, S. K. R. (2017). Evaluation of friction and wear characteristics of electrostatic solid lubricant at different sliding conditions. *Surface and Coatings Technology*, 332, 341-350.
- Hakimi, M. I. A., C., Abdollah, M. F., Amiruddin, H., Tamaldin, N., & Nuri, N. R. M. (2014). Effect of hBN /Al₂O₃ nanoparticle on the tribological performance of engine oil 1-6.
- Hasim, P. (2014). *Tribology in Engineering* (2014 ed.). Croatia: InTech.
- He-long, Y., Yi, X., Pei-Jing, S., Bin-Shi, X., Xiao-li, W., & Qian, L. (2007). Tribological properties and lubricating mechanisms of Cu nanoparticles in lubricant. *Transactions of nonferrous metals society of china*, 636-642.
- Hironaka, S. (1984). Boundary lubrication and lubricants. *Three Bond Technical News*.
- Hussein, A. M., Sharma, K. V., Bakar, R. A., & Kadirgama, K. (2014). A review of forced convection heat transfer enhancement and hydrodynamic characteristics of a nanofluid. *Renewable and Sustainable Energy Reviews*, 29, 734-743. doi:http://dx.doi.org/10.1016/j.rser.2013.08.014
- Hutchings, I. M. (1992). *Tribology friction and wear of engineering materials*. Cambridge: Butterworth-Heinemann.
- Hutchings, I. M. (2016). Leonardo da Vinci's studies of friction. *Wear*, 360-361, 51-66.
- Johansson, S., Nilsson, P. H., Ohlsson, R., & Rosen, B.-G. (2011). Experimental friction evaluation of cylinder liner/piston ring contact. *Wear*, 271(3-4), 625-633.

- Juozas, P., Raimundas, R., Igoris, P., & Raimondas, K. (2013). Tribological properties of lubricant additive of Fe,Cu and Co nanoparticle. 224-232.
- Kaviyarasu, T., & Vasanthan, B. (2015). Improvement of tribological and thermal properties of engine lubricant by using nano-material. *Journal of Chemical and Pharmaceutical Science*, 208-211.
- Khuri, A. I., & Cornell, J. A. (1996). *Response surfaces: designs and analyses* (Vol. 152): CRC press.
- Laura, P. P., Jaime, T. T., Lorena, G., Demofilo, M. C., Remigiusz, M., & Carolina, L. (2015). Effect of CuO and Al₂O₃ nanoparticle additives on the tribological behaviour of fully formulated oils. *Wear*, 1256-1261.
- Lee, J., & Mudawar, I. (2007). Assessment of the effectiveness of nanofluids for singlephase and two-phase heat transfer in micro-channels. *International Journal of Heat and Mass Transfer*, 50(3-4), 452-463.
- Lubrication, M. (2016). Basic wear modes in lubricated systems.
- Mai, L., Ali, M. K. A., Xianjun, H., Bicheng, C., Turkson, R. F., & Qingping, C. (2016). Reducing frictional power losses and improving the scuffing resistance in automotive engines using hybrid nanomaterials as nano-lubricant additives. *Wear*, 364-365, 270-281.
- Marcos, A. B., Ricardo, E. S., Eliane, P. O., Leonardo, S. V., & Luciane, A. E. (2008). Response surface methodology (RSM) as a tool for optimization in analytical chemistry. 76(5), 965-977.
- Marksberry, P. W., & Jawahir, I. S. (2008). A comprehensive tool-wear/tool-life performance model in the evaluation of NDM (near dry machining) for sustainable manufacturing. *Machine Tools & Manufacture*, 48, 878-886.
- Mehta, D. S., Masood, S. H., & Song, W. Q. (2004). Investigation of wear properties of magnesium and aluminum alloys for automotive applications. *Journal of Materials Processing Technology*, 155-156, 1526-1531.
- Mobarak, H. M., Niza, E. M., Masjuki, H. H., Kalam, M. A., Al Muhmud, K. A. H., Habibullah, M., & Ashraf, A. M. (2014). The prospects of biolubricants as alternatives in automotive applications. *Renewable and Sustainable Energy Reviews*, 33, 34-43.

- Monaghan, M. L. (1988). ENGINE FRICTION-A CHANGE IN EMPHASIS: A new approach which may result in significant fuel consumption gains. *Industrial Lubrication and Tribology*, 40(2), 4-11.
- Najiha, M. S., Rahman, M. M., Kadirgama, K., Noor, M. M., & Ramasamy, D. (2015). Multi-objective optimization of minimum quantity lubrication in end milling of aluminum alloy AA6061T6. *International Journal of Automotive and Mechanical Engineering*, 12(1), 3003-3017. doi:10.15282/ijame.12.2015.15.0250
- Nehme, G. N. (2012). The effect of FeF₃/TiF₃ catalysts on the thermal and tribological performance of plain oil ZDDP under extreme pressure loading. *Wear*, 278-279.
- Nehme, G. N. (2015). Toward the minimization of friction and wear using fluorinated additive under extreme boundary lubrication in fully formulated oil. *Journal of Energy and Economic Development*, 1, 10-21.
- Noordin, M. Y., Venkatesh, V. C., Sharif, S., Elting, S., & Abdullah, A. (2004). Application of response surface methodology in describing the performance of coated carbide tools when turning AISI 1045 steel. *Journal of Materials Processing Technology*, 145(1), 46-58.
- Peng, B. C., Hazizan, M. A., Ramdziah, N., & Abbas, K. (2015). Optimization on wear performance of UHMWPE composites using response surface methodology. *Tribology International*, 252-262.
- Pisal, S., & Chavan, D. S. (2014). Experimental investigation of tribological properties of engine oil with CuO nanoparticles. *International Journal of Theoretical and Applied Research in Mechanical Engineering*, 3(2), 2319-3182.
- Rajasekhar, P., Ganesan, G., & Senthikumar, C. (2014). Studies on Tribological Behavior of Polyamide Filled Jute Fiber-Nano-ZnO Hybrid Composites. *Procedia Engineering*, 97, 2099-2109.
- Rao, G. S., Sharma, K. V., Chary, S. P., Bakar, R. A., Rahman, M. M., Kadirgama, K., & Noor, M. M. (2011). Experimental study on heat transfer coefficient and friction factor of Al₂O₃ nanofluid in a packed bed column. *Journal of Mechanical Engineering and Sciences*, 1(1), 1-15.

- Routara, B. C., Bandyopadhyay, A., & Sahoo, P. (2009). Roughness modelling and optimization in CNC end milling using response surface method: effect of workpiece material variation. *International Journal Advance Manufacture Technology*, 40, 1166-1180.
- S., M., Zheng, S., Duxia, C., & Hongna, G. (2010). Anti-wear and friction performance of ZrO₂ nanoparticles as lubricant additive. *Particuology*, 468-472.
- Sorate, K. A., & Bhale, P. (2013). Impact of biodiesel on fuel system materials durability. *Journal od Scientific and Industrial Research*, 72, 48-57.
- Sreten, P., Baogdan, N., Dragan, T., & Mladen, V. (2013). An experimental study of the tribological characteristics of engine and gear transmission oils. *Journal of Mechanical Engineering*, 443-450.
- Srivastava, S. P. (2009). Advances in lubricant additive and tribological. New Delhi: Tribology society of India.
- Stachowiak, G., & Batchelor, A. (2005). *Engineering Tribology*: Butterworth-Heinemann.
- Sudhir, C. V., & Omar, K. H. A. (2015). Density and thermal conductivity changes in engine oil during its life cycle: An experimental study. *Multidisciplinary Science and Engineering*, 6, 24-28.
- Sunqing, Q., Zhongrong, Z., Junxiu, D., & Guoxu, C. (2001). Preparation of Ni nanoparticles and evaluation of their tribological performance as potential additives in oils. *Journal of Tribology*, 123, 441-443.
- Syaima, M. T. S., Zamratul, M. I. M., Noor, I. M., & Rifdi, W. M. W. T. (2014). Development of bio-lubricant from *Jatropha curcas* oils. *International Journal of Research in chemical, Metallurgical and Civil Engg. (IJRCMCE)*, 1(1).
- Tang, Z., & Li, J. (2014). A review of recent developments of friction modifiers for liquid lubricants (2007–present). *Current Opinion in Soled State and Materials Science*, 18(3), 119-139.
- Tao, H., Dong, J., Jiaxu, W., & Jane, W. Q. (2016). Experimental and numerical investigations of the Stribeck curve for lubricated counterformal contacts. *Journal of Tribology*, 139(2), 13. doi:10.1115/1.4034051

- Taylor, C. M. (1993). Engine Bearings: Background and Lubrication Analysis. *Tribology Series*, 26, 89-112.
- Team, M. M. (2015). Properties of Good Lubricants.
- Theo, M., Kirsten, B., & Thorsten, B. (2011). *Industrial Tribology*. Germany: Wiley-VCH Verlag & Co.KGaA.
- Ting, L., Xiaowei, W., Xiong, H., Liang, H., & Fan, Y. (2014). Tribological properties of Al₂O₃ nanoparticles as lubricating oil additives. *Ceramics International*, 7143-7149.
- tribonet. (2016). Friction.
- Truhan, J. J., Qu, J., & Blau, P. J. (2005). A rig test to measure friction and wear of heavy duty diesel engine piston rings and cylinder liners using realistic lubricants. *Tribological International*, 38(3), 211-218.
- Tung, S. C., & McMillan, M. L. (2004). Automotive tribology overview of current advances and challenges for the future. *Tribological International*, 37, 517-536.
- Vijaykumar, S. J., & Singh, T. P. (2015). Copper oxide nano-particles as friction-reduction and anti-wear additive in lubricating oil. *Mechanical Science and Technology*, 2, 793-798. doi:10.1007/s12206-015-0141-y
- White, C., & Gadd, G. M. (1996). Mixed sulphate-reducing bacterial cultures for bioprecipitation of toxic metals: Factorial and response-surface analysis of the effects of dilution rate, sulphate and substrate concentration. *Microbiology*, 142, 2187-2205.
- Wu, Y. Y., Tsui, W. C., & Liu, T. C. (2007). Experimental analysis of tribological properties of lubricating oils with nanoparticle additives. *Wear*, 262(7-8), 819-825. doi:10.1016/j.wear.2006.08.021
- Xu, J., Wang, J., Niu, L., Zhang, J., Ju, C., Nan, X., & Feng, C. (2016). Effect of Particle Size on Dispersibility of Antimony Nanoparticles in Lubricating Oil. *Synthesis and Reactivity in Inorganic, Metal-Organic and Nano-Metal Chemistry*, 46(4), 477-482. doi:10.1080/15533174.2014.988809
- Y.Y.Wu, Tsui, W. C., & Liu, T. C. (2007). Experimental analysis of tribological properties of lubricating oils with nanoparticles additive. *Wear*, 819-825.

- Yazdi, M. S., & Khorram, A. (2010). Modelling and optimization of milling process by using RSM and ANN methods. *IACSIT International Journal of Engineering and Technology*, 2, 474-480.
- Zhang, B.-S., Xu, B.-S., Yi, X., Fei, G., Pei-Jing, S., & Yi-Xiong, W. (2011). CU nanoparticle effect on the tribological properties of hydrosilicate powders as lubricant additive for steel-steel contacts. *Tribological International*, 878-886.
- Zhenyu, J. Z., Dorin, S., & Carl, S. (2014). Graphite and hybrid nanomaterials as lubricant additive. 2, 44-65.
- Zhou, J., Wu, Z., Zhang, Z., Liu, W., & Xue, Q. (2000). Tribological behavior and lubricating mechanism of Cu nanoparticles in oil. *Tribology Letter*, 213-218.
- Zoubida, H., Cherifa, A., Hakan, F. O., & Amina, M. (2014). A review on how the reseachers prepare their nanofluids. *International Journal of Thermal Science*, 168-189.
- Zulkifli, N. W. M., Kalam, M. A., Masjuki, H. H., & Yunus, R. (2013). Experimental analysis of tribological properties of chemically modified bio-based lubricant with nanoparticle additives.